**A Translators**

A **Translator** is a computer program that translates one programming language instruction(s) into another programming language instruction(s) without the loss of original meaning. OR, the translator will translate X language and produce X’ language. Where X is the MEANING and ‘(DASH) is the language. Some advanced translators will even change the logic (not meaning) or will simplify the logic without losing the essence

**Types**

If the translator translates a [high level language](http://en.wikipedia.org/wiki/High_level_language) into an [assembly](http://en.wikipedia.org/wiki/Assembly_language) or [machine language](http://en.wikipedia.org/wiki/Machine_language) it is called a [compiler](http://en.wikipedia.org/wiki/Compiler). Examples include [Ada](http://en.wikipedia.org/wiki/Ada_(programming_language)), [ALGOL](http://en.wikipedia.org/wiki/ALGOL), [BASIC](http://en.wikipedia.org/wiki/BASIC), [COBOL](http://en.wikipedia.org/wiki/COBOL), [FORTRAN](http://en.wikipedia.org/wiki/FORTRAN), [PL/I](http://en.wikipedia.org/wiki/PL/I), [C](http://en.wikipedia.org/wiki/C_(programming_language))/[C++](http://en.wikipedia.org/wiki/C%2B%2B).

If the translator translates a high level language into an intermediate code which will be immediately executed it is called [interpreter](http://en.wikipedia.org/wiki/Interpreter_(computing)). Examples include [APL](http://en.wikipedia.org/wiki/APL_(programming_language)), [ASP](http://en.wikipedia.org/wiki/Active_Server_Pages), [CYBOL](http://en.wikipedia.org/w/index.php?title=CYBOL&action=edit&redlink=1), [LISP](http://en.wikipedia.org/wiki/LISP), [Smalltalk](http://en.wikipedia.org/wiki/Smalltalk), [PHP](http://en.wikipedia.org/wiki/PHP) and [PERL](http://en.wikipedia.org/wiki/PERL).

If the translator translates target/machine code to source language it is called a [Decompiler](http://en.wikipedia.org/wiki/Decompiler). Example: [DCC](http://en.wikipedia.org/wiki/DCC), [Boomerang Decompilers](http://en.wikipedia.org/w/index.php?title=Boomerang_Decompilers&action=edit&redlink=1) and [Reverse Engineering Compiler](http://en.wikipedia.org/w/index.php?title=Reverse_Engineering_Compiler&action=edit&redlink=1) (REC).

If the translator translates assembly language to machine code such kind of translator is called [assembler](http://en.wikipedia.org/wiki/Assembly_language). Examples include [MASM](http://en.wikipedia.org/wiki/MASM), [TASM](http://en.wikipedia.org/wiki/TASM), [NASM](http://en.wikipedia.org/wiki/Netwide_Assembler) and [FASM](http://en.wikipedia.org/wiki/FASM).

If the translator translates machine code into assembly language such kind of translator is called [Disassembler](http://en.wikipedia.org/wiki/Disassembler). Examples include [gdb](http://en.wikipedia.org/wiki/Gdb), [IDA Pro](http://en.wikipedia.org/wiki/IDA_Pro) and [OllyDbg](http://en.wikipedia.org/wiki/OllyDbg).